

ABSTRACT OF THE DISCLOSURE

A method and apparatus for combusting a fuel and air mixture within a combustion chamber, particularly a combustion chamber of a gaseous fuel fired water heater. A pressure relief void is intentionally formed so that a combustion chamber forms communication with a surrounding environment through means other than the exhaust flue and/or a fuel and/or air inlet. During ignition, the pressure relief void allows pre-combustion fluid within the combustion chamber to escape through both the pressure relief void and the exhaust flue. The pressure relief void reduces or eliminates undesirable noise associated with start-up and operation of conventional water heater combustion chambers with premixed burner systems. The pressure relief void of this invention is preferably sized large enough to relieve an ignition pressure pulse from the combustion chamber upon ignition and yet is sized small enough to prevent a combustion flame from passing through the pressure relief void during ignition and/or operational combustion. The water heater may include two burner assemblies, each which can be easily attached or detached, for quick installation and easy maintenance.